

REMARKS

In the outstanding office action, claims 1-12 were presented for examination. Claim 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,657,390 issued to Elgamal et al. ("Elgamal") in view of an online description of Stunnel by Trojnara et al. ("Stunnel"). Claims 7, 8, and 10-12 were rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,772,333 B1 issued to Brendel et al. ("Brendel") in view of Stunnel. Claims 2-6 were rejected under 35 U.S.C. 103(a) as being unpatentable over Elgamal in view of Stunnel and further in view of Brendel. Claim 9 was objected to as being dependent upon a rejected base claim.

The examiner bears the initial burden of factually supporting any *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1 438 (Fed. Cir. 1991).

Claim 1

The rejection of claim 1 under 35 U.S.C. §103(a) is respectfully traversed for at least the following reasons. First, there is no suggestion or motivation to combine the Elgamal reference with the Stunnel reference. Second, even if there were a motivation to combine the references, the combination of the references would not teach all of the claim limitations. Therefore, applicant respectfully submits that claim 1 is allowable over Elgamal in view of Stunnel.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)

Looking initially to the combined teachings of the references, Stunnel states: "The concept is that having non-SSL aware daemons running on your system you can easily setup them to communicate with clients over secure SSL channel. stunnel can be used to add SSL functionality to commonly used *inetd* daemons . . . without any changes in the programs' code." (Stunnel, page 1). This passage suggests that Stunnel is directed towards the problem of a non-SSL aware daemon being unable to securely communicate with an SSL-aware host or server by using SSL encryption. Stunnel solves this problem by adding SSL functionality to non-SSL aware daemons. Meanwhile, Elgamal discloses an application invoking SSL API commands which suggests that the application disclosed in Elgamal is already SSL aware. (col. 13, ln 7-9, *see also* O.A. dated 6-9-05, par. 29-30). Elgamal does not disclose the use of non-SSL aware applications. Since the application in Elgamal is already SSL aware, Elgamal does not need to be modified by Stunnel in order to add SSL encryption functionality to the application program. Therefore, the problem that the Stunnel reference seeks to solve, namely allowing non-SSL aware applications to communicate using SSL encryption, is not a problem that is relevant to the Elgamal reference. Thus, a person of ordinary skill in the art would not find a motivation to combine the Elgamal and Stunnel references based upon the combined teachings the references.

Now turning to the nature of the problem to be solved. Embodiments of the invention seek to allow sharing of SSL sessions across multiple processes thereby alleviating the depletion of available computer resources as the number of requesting

processes and SSL sessions grows. (Gambino, par. 4). Neither the Elgamal reference nor the Stunnel reference contain any suggestion that combining these references will help alleviate the depletion of available computer resources as the number of requesting processes and SSL sessions grow. More specifically, the Stunnel reference, which allows non-SSL aware daemons to communicate using SSL encryption has no relation to the nature of the problem solved by the presently claimed invention. Thus, a person of ordinary skill in the art would not find a motivation to combine the Elgamal and Stunnel references based upon the nature of the problem to be solved.

A person of ordinary skill in the art would know that there is no advantage in using the Stunnel SSL encryption wrapper for any application in Elgamal because the applications in Elgamal are disclosed to be SSL aware. Since the purpose of Stunnel is to provide SSL encryption capabilities for applications that are non-SSL aware, a person of ordinary skill in the art would know that modifying Elgamal with the teachings of Stunnel would not provide any additional advantage or improvement to the Elgamal reference. Thus, there is no motivation to combine these two references based upon the knowledge of a person of ordinary skill in the art.

The Office Action argues that there would be motivation to combine Elgamal with Stunnel because "[Stunnel's] SSL encryption wrapper would improve the system of Elgamal by allowing the security protocol by which e-mail message can be securely delivered to computer." This asserted motivation is improper for at least two reasons. First, this asserted motivation implies that Elgamal contains non-SSL aware applications, but the disclosure of Elgamal indicates otherwise. (col. 13, ln 7-9, *see also* O.A. dated 6-9-05, par. 29-30). Second, the nature of the problem to be solved by the embodiments of the invention has no relation to the motivation to combine that is provided in the Office Action. As stated above, embodiments of the invention are directed towards alleviating the depletion of available computer resources as the number of requesting processes and SSL sessions grow. This has no relation to "allowing the security protocol by which e-mail message can be securely delivered to the recipient." Thus, the rationale for combining the references provided in the Office Action is improper.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). As shown above, the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would not have suggested the combination of Elgamal with Stunnel to a person of ordinary skill in the art. Since there is no showing of a proper motivation to combine these two references, the combination of Elgamal with Stunnel is improper and constitutes impermissible hindsight reasoning.

Even if there were a proper motivation to combine the Elgamal and Stunnel references, the combination of the references would still not teach all of the claim elements. More specifically, the combination of references would not teach "a plurality of SSL application programming interface (API) calls for communication between the application process and SSL wrapper process". It is clear that the Elgamal reference does not teach a wrapper process, and consequently does not teach a plurality of SSL application programming interface calls for communication between the application process and SSL wrapper process. (O.A. dated 6-9-05, par. 5). Furthermore, the Elgamal reference as modified by the Stunnel reference also does not teach "a plurality of SSL application programming interface (API) calls for communication between the application process and the SSL wrapper process". Stunnel is directed towards an encryption wrapper that is capable of communicating with a non-SSL aware daemon, but Stunnel does not teach or suggest an SSL wrapper process where there is a plurality of SSL application programming interface (API) calls for communication between the application process and SSL wrapper process. In order for the Elgamal reference as modified by the Stunnel reference to include this missing element, the Stunnel reference would need to be modified so that the encryption wrapper would communicate with an application program through SSL API calls. Such a modification to the Stunnel reference

would change the principle of operation of the wrapper in Stunnel and would therefore be improper. To read this missing element into the references without properly modifying the Stunnel reference constitutes a construction of the Stunnel reference that is taken out of context and would therefore also be improper. Therefore, even if there were a motivation to combine Elgamal with Stunnel, the combination of the references would not teach all of the elements of claim 1. Thus, claim 1 is believed to be allowable over Elgamal in view of Stunnel.

Claim 7

The rejection of claim 7 under 35 U.S.C. §103 is respectfully traversed for at least the following reasons. There is no suggestion or motivation to combine the Brendel reference with the Stunnel reference. Furthermore, even if there were a motivation to combine the references, the combination of the references would not teach all of the claim elements. Therefore, applicant respectfully submits that claim 7 is allowable over Brendel in view of Stunnel.

Similar to claim 1, there is no basis for a motivation to combine Brendel and Stunnel based on the three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.

Looking initially at the combined teachings of the references, as noted under the remarks for claim 1, Stunnel is directed towards the problem of a non-SSL aware daemon being unable to securely communicate with an SSL-aware host or server by using SSL encryption. Stunnel solves this problem by adding SSL functionality to non-SSL aware daemons. Meanwhile, the Brendel reference discloses a client invoking SSL messages which suggests that the client in Brendel is SSL aware. (col 4, ln 54-56, figure 9). Brendel does not disclose the use of non-SSL aware applications. Since the application in Brendel is already SSL aware, Brendel does not need to be modified by Stunnel in order to add SSL encryption functionality to the application program. Therefore, the

problem that the Stunnel reference seeks to solve, namely allowing non-SSL aware applications to communicate using SSL encryption, is not a problem that is relevant to the Brendel reference. Thus, a person of ordinary skill in the art would not find a motivation to combine the Brendel and Stunnel references based upon the combined teachings the references.

Now turning to the nature of the problem to be solved. Embodiments of the invention seek to allow sharing of SSL sessions across multiple processes thereby alleviating the depletion of available computer resources as the number of requesting processes and SSL sessions grows. (Gambino, par. 4). Neither the Brendel reference nor the Stunnel reference contain any suggestion that combining these references will help alleviate the depletion of available computer resources as the number of requesting processes and SSL sessions grow. More specifically, the Stunnel reference, which allows non-SSL aware daemons to communicate using SSL encryption has no relation to the nature of the problem solved by the claimed invention. Thus, a person of ordinary skill in the art would not find a motivation to combine the Brendel and Stunnel references based upon the nature of the problem to be solved.

Now turning to the knowledge of a person of ordinary skill in the art. A person of ordinary skill in the art would know that there is no advantage in using the Stunnel SSL encryption wrapper for any application in Brendel because the applications in Brendel are disclosed to be SSL aware. Since the purpose of Stunnel is to provide SSL encryption capabilities for applications that are non-SSL aware, a person of ordinary skill in the art would know that modifying Brendel with the teachings of Stunnel would not provide any additional advantage or improvement to the Brendel reference. Thus, there is no motivation to combine these two references based upon the knowledge of a person of ordinary skill in the art.

Furthermore, it would not be clear to a person of ordinary skill in the art how Brendel should be combined with Stunnel to create the present invention. The Stunnel disclosure suggests that the SSL encryption wrapper serves as a means of communication

between a non-SSL aware daemon and an SSL channel. Meanwhile, claim 7 discloses an SSL wrapper process that serves as a means of communication between an application process and an SSL daemon process. Stunnel does not disclose a SSL wrapper process that serves as a means of communication between an application process and an SSL daemon process. Therefore, even if there were a motivation to combine Brendel with Stunnel, it would not be clear to a person of ordinary skill in the art of how to actually combine these references.

The Office Action argues that there would be motivation to combine Brendel and Stunnel because "[Stunnel's] SSL would improve the security of Brendel's system by securing all the message that are delivered to the recipient." The asserted motivation is improper for at least two reasons. First, this asserted motivation implies that Brendel contains non-SSL aware applications, but the disclosure of Brendel indicates otherwise. (col 4, ln 54-56, figure 9). Second, the nature of the problem to be solved has no relation to the stated motivation to combine the references in the Office Action. As stated above, embodiments of the invention are directed towards alleviating the depletion of available computer resources as the number of requesting processes and SSL sessions grow, which is very different from improving security "by securing all the message that are delivered to the recipient." Thus, the rationale for combining the references provided in the Office Action is improper.

As shown above, the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would not have suggested the combination of Brendel with Stunnel to a person of ordinary skill in the art. Since there is no showing of a proper motivation to combine these two references, the combination of Brendel with Stunnel is improper and constitutes impermissible hindsight reasoning.

Even if there were a proper motivation to combine the Brendel and Stunnel references, the combination of the references would still not teach all of the claim elements. More specifically, the combination of references would not teach "a shared

SSL session". The Office Action claims that the "encrypted session" in Brendel is a shared SSL session because "Brendel teaches the same encrypted session to the same server". As stated in the specification of the current application, a shared SSL session allows multiple processes to use the same SSL session. (Gambino, par. 13). Brendel does not teach multiple processes using the same SSL session. Brendel does teach "connections belonging to the same encrypted session to the same server", but these "connections" are not connections among multiple processes, they are merely connections belonging to the same process that take place at different points in time. (Brendel, col 10, ln 14-17). Brendel does not disclose, teach, or suggest multiple processes using the same encrypted session. Thus, a shared SSL session is not taught or suggested by Brendel in view of Stunnel.

In addition, even if the "encrypted session" in Brendel was able to be construed as a shared SSL session, Brendel as modified by Stunnel still would not teach or suggest all of the limitations. For example, the limitations of "calling, by the SSL daemon process, at least one SSL session" and "receiving, by the SSL daemon process, at least one return code from at least one called SSL session" are not taught by Brendel alone or in combination with Stunnel. The Office Action is silent as to the first missing limitation. Looking to the second missing limitation, the office action cites col 11, ln 23-26 as teaching "at least one process receiving at least one return code". (O.A. dated 6-9-05, par. 8). The disclosure in Brendel teaches a load balancer receiving a response from a server. It does not disclose a load balancer receiving a response from the "encrypted session" which, according to the Office Action, is analogous to the shared SSL session. Therefore, even if there were a motivation to combine Brendel with Stunnel, the combination of the references would not teach all of the elements of claim 7. Thus, claim 7 is believed to be allowable over Brendel in view of Stunnel.

Claim 10

The rejection of claim 10 under 35 U.S.C. §103 is respectfully traversed for at least the following reasons. As shown above in the remarks for claim 7, there is no suggestion or motivation to combine the Brendel reference with the Stunnel reference. Furthermore, even if there were a motivation to combine the references, the combination of the references still does not teach all of the claim limitations. As discussed in the remarks above for claim 7, Brendel alone or in combination with Stunnel does not teach "a shared SSL session". Furthermore, Brendel alone or in combination with Stunnel does not teach determining, by the SSL wrapper process, whether the request is for a shared SSL session or an unshared SSL session. Brendel does disclose directing all connections for an encrypted session to the same server based upon an assignment stored in the SSL table, but this has no relation to determining whether a request is for a shared SSL session or an unshared SSL session. Therefore, claim 10 is believed to be allowable over Brendel in view of Stunnel.

Claims 2-6

The rejection of claim 2 under 35 U.S.C. §103 is respectfully traversed for at least the following reasons. As shown above in the remarks for claims 1 and 7, there is no suggestion or motivation to combine the Elgamal reference with the Stunnel reference or to combine the Brendel reference with the Stunnel reference. Second, claim 2 refers to "a shared SSL session" which is not taught or suggested by Elgamal, Brendel, or Stunnel alone or in combination with each other. Third, claim 2 depends from claim 1, so claim 2 is believed to be in a condition for allowance for at least the same reasons as claim 1 in addition to including additional features.

Claims 3-6 depend either directly or indirectly from claims 1 and 2 accordingly, claims 3-6 are also believed to be in a condition for allowance for at least the same reasons as claims 1 and 2 in addition to including additional features.

Claims 8-9, 10-12

Claims 8-9 depend either directly or indirectly from claim 7 accordingly, claims 8-9 are also believed to be in a condition for allowance for at least the same reasons as claim 7 in addition to including additional features.

Claims 11-12 depend either directly or indirectly from claim 10 accordingly, claims 11-12 are also believed to be in a condition for allowance for at least the same reasons as claim 10 in addition to including additional features.

In view of the above amendments and the discussion relating thereto, it is respectfully submitted that the present application is in condition for allowance. Such action is most earnestly solicited. If for any reason the Examiner feels that consultation with Applicant's attorney would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below for an interview.

If there are any charges with respect to this response or otherwise, please charge them to Deposit Account 09-0463.

Respectfully submitted,

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